

REMARKS

Applicants acknowledge and appreciate the Examiner's acceptance of Applicants' arguments presented on appeal.

5 All outstanding rejections deny grant of patent based on allegations of 35 USC Section 103 obviousness.

Claims 1-2, 5, 8-11, 13-17, 19-20, 22, 24-27 and 29-41 stand rejected under 35 USC Section 103(a) as allegedly unpatentable over Gandy (US No. 5,376,957) in view of Meyers (US
10 No.5,376,957).

Claims 3-4, 18, and 21 stand rejected under 35 USC Section 103(a) as allegedly unpatentable over Gandy in view of Meyers and further in view of Carreira et al.

15 Claims 6-7 stand rejected under 35 USC Section 103(a) as allegedly unpatentable over Gandy in view of Meyers and further in view of Woo et al.

Claim 42 stands rejected under 35 USC Section 103(a) as allegedly unpatentable over Gandy in view of Meyers and Ort (US No. 4,340,893).

20 The Examiner further rejects each of independent claims 1, 14, 22, 27, 31, 38, and 42 as allegedly unpatentable over Gandy in view of Ort.

25 Accordingly, applicants note, with one exception, all outstanding rejections rely on an identical combination of Gandy and Meyers as base and secondary references. A failure under 35 USC Section 103 relative to the basic combination of Gandy and Meyers results in a failure of all rejections based upon this proposed combination. The single exception is the rejection of independent claims 1, 14, 22, 27, 31, 38, and 42 as allegedly unpatentable over Gandy in view of Ort.

Obviousness is a question of law based on (1) the scope and content of the prior art; (2) the differences between the prior art and the claims at issue; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966). “In proceedings before the Patent and Trademark Office, the Examiner bears the burden of establishing a *prima facie* case of obviousness based upon the prior art.” *In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992). If examination at the initial stage does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of the patent.” *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

“Where claimed subject matter has been rejected as obvious in view of a combination of prior art references, a proper analysis under § 103 requires, inter alia, consideration of two factors: (1) whether the prior art would have suggested to those of ordinary skill in the art that they should make the claimed composition or device, or carry out the claimed process; and (2) whether the prior art would also have revealed that in so making or carrying out, those of ordinary skill would have a reasonable expectation of success. Both the suggestion and the reasonable expectation of success must be founded in the prior art, not in the applicant’s disclosure.” *In re Vaeck*, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991) (citations omitted).

Accordingly, without a *prima facie* case of obviousness Applicants are entitled to a grant of patent.

As stated in the MPEP 706.02(j):

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined)

must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure.

5 Gandy shows an inkjet printing device for enlargement of color images by producing an image on both sides of a translucent substrate to thereby enhance the quality of the viewed image. Printheads mount on separate carriages and operate simultaneously on both sides of the substrate to produce the same image on both sides of the substrate. Stationary heat lamps placed near the substrate, but separate from the carriages and printheads, help to adhere ink to the substrate. One
10 heat lamp resides upstream from the printheads to heat the substrate prior to application of ink, the other resides downstream from the printheads intermediate the printheads and a substrate roller.

In this regard, Gandy teaches specifically that a drying apparatus be separate from a print carriage.

15 Meyers shows a stationary air dryer, i.e., applying air to media for the purpose of drying, operating adjacent to but externally of an associated printing device. While not specifically detailed in Meyers, the device is taken to be a stationary enclosure having a slotted feed path therethrough. Generally, the stationary dryer of Meyers allows media passage therethrough, e.g., along the slotted
20 feed path, and can accept media as output from a printing device, e.g., at the speed of printer throughput.

Thus, Meyers teaches in FIG. 3 *stationary external* drying according to "two-stage" application of air at specific pressure and velocities relative to media moving in relation thereto.
25 Stated simply, Meyers teaches an external box-form air dryer having a slotted pathway aligned along the media feed path.

In this regard, Meyers teaches specifically that a drying apparatus be not only separate from a print carriage but separate entirely from the printing device as a whole.

5 Meyers, in the background portion thereof, inventories by example various prior art devices including a citation to Ort for the proposition that “Ort describes a scanning inkjet printer with an inkjet drying apparatus on the carriage where the drying apparatus includes a dryer body 40 that directs heated or unheated air onto the printed ink...” (Meyers at Column 1, lines 30-33)

10 Meyers does not relate nor suggest in any way carriage-mounted drying apparatus for two-sided drying of a sheet. In other words, Meyers does not teach or suggest that the dryer of Ort be combined with the invention of Meyers. Applicants respectfully submit that a mention of prior art in the background portion of a patent document does not constitute a teaching that such noted prior art be combined with embodiments of invention disclosed in the patent document. If anything, such combination is by implication not suggested: the background portion of a patent document can be fairly taken by one of ordinary skill as distinct from the disclosed embodiments and not a suggestion of combination.

15 The Examiner Has Failed to Set Forth A *Prima Facie* Case of Obviousness.

 The Examiner states as follows:

20 “Meyers et al discloses:
 ... a drying apparatus on an ink carriage (Column 1, lines 30-36);
 drying on two sides of a sheet (figure 3, reference 141 an 151)...”

 The Examiner goes on to allege as obvious:

25 “to incorporate the *teachings* of Meyers et al into the carriages of Gandy et al so that each part of the bi-furcated carriage of Gandy et al also carries a heating element.”
 (emphasis added)

30 Applicants find vague a proposed combination joining the “teachings” of one reference with the apparatus of a second reference. Meyers discloses by example of prior art the Ort drying

apparatus as being placed on a print carriage, but does not teach that such be employed. The “teachings” of Meyers as a whole can only be taken as proposing use of a drying apparatus separate from the printing device, and certainly separate from the print carriage.

5 The Examiner further states:

 “The motivation for the skilled artisan in doing so is to gain the benefit of actively drying the media in a rapid and continuous manner so that no subsequent drying period is needed.”

10 To the contrary, both Gandy and Meyers teach that active and continuous drying be conducted by drying apparatus separate from the print carriage. Both achieve active and continuous drying by placement heating devices separate from the carriage, neither suggests nor teaches, as proposed by the Examiner, a drying apparatus on a carriage drying on both sides of a sheet.

15 The Examiner attempts to establish suggestion of the proposed combination as:

 “The combination is suggested by Meyers et al in its teachings that 1) a dryer can be put on a carriage and 2) a sheet can be dried on both sides (figure 3).”

20 Meyers makes no such teaching or suggestion expressly or implicitly to one of ordinary skill in the art. Nowhere does Meyers show or suggest placement of a dryer on a carriage wherein the dryer dries on both sides of a sheet.

25 As for the first leg of a *prima facie* case of obviousness, there exists no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings as proposed by the Examiner. In the present case, if one of ordinary skill in the art were to “incorporate the teachings of Meyers” one would make use of what Meyers actually taught, i.e., a stationary external air dryer separate from the printing device.

As for the second leg of a *prima facie* case of obviousness, there must be a reasonable expectation of success. In the present case, applicant's respectfully submit and as previously and successfully under appeal, one of ordinary skill in the art would not place the external dryer of Meyers on a print carriage. Movement of the carriage would upset the delicate balance of air pressures and airflow needed for the intended operation of the Meyers dryer.

As for the third leg of a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. In the present case, nowhere do the cited references individually or in combination teach or suggest that a dryer be mounted on a carriage and also dry both sides of a sheet as alleged by the Examiner. Both Gandy and Meyers teach that drying device be placed apart from the print carriage.

An inventory by example of prior art drying apparatus does not rise to teaching. In fact, Gandy and Meyers "teach" that a drying apparatus be placed separate from the print carriage.

Applicants claim heating or drying elements in face-to-face opposition spanning media or a media printzone and on separate carriages and by implication establish a structure or method drying on both sides of the media.

Claim 1 calls for "a bi-furcated carriage" and "a bi-furcated heating element supported by the carriage ... first and second heater elements being maintained in face-to-face relation across said print zone."

Claim 14 calls for "a first carriage located on a first side of a printzone ... supporting a first heater element portion"; "a second carriage located on a second side of a print zone ... supporting a second heater element portion"; and "said first and second heater element portions ... being maintained in face-to-face opposition across said printzone."

Claim 22 calls for “a first carriage”; “projecting from a first heater element on said first carriage radiant energy applied as heat energy to said media”; “a second carriage holding a second heater element cooperative with said first heater element to generate and apply said heat energy to said media”; and said first and second carriage being maintained in face-to-face relation with said media interposed therebetween.”

Claim 27 calls for “media in a printzone”; “reciprocating a first carriage”; “projecting from a first heater element on said first carriage radiant energy applied as heat energy to said media”; “synchronously scanning a second carriage ... holding a second heater element cooperative with said first heater element to apply said heat energy to said media; and said first and second carriage being maintained in face-to-face relation with said media interposed therebetween.”

Claim 31 calls for “moving a heat zone across said media ... said heat zone being generated by cooperative first and second heating elements moving synchronously relative to said media ... said first and second heating elements being maintained in face-to-face opposition with said print media interposed therebetween.

Claim 38 calls for “means for reciprocating a carriage”; and “means for applying heat energy to said media and supported by said carriage means ... said means for applying heat energy being bi-furcated and including first and second heater elements ... said first heater element being positioned at a first side of said media and said second heater element being maintained in a face-to-face opposition therewith at a second side of said media.”

Claim 42 calls for “a reciprocating printing device projecting ink droplets therefrom along a print swath” and “a reciprocating bifurcated heating element projecting energy therefrom and applied as heat energy to said media ... said bifurcated heating element including first portion maintained at a first side of said print swath and a second portion maintained at a second side of said print swath in face-to-face opposition to said first portion.

Because neither Gandy nor Meyers teaches or suggests bifurcated heating on two sides of media by way of carriage-mounted drying apparatus, the Examiner's proposed combination lacks all the claims elements and thereby fails to establish the third leg of a *prima facie* case of obviousness.

Accordingly, the Examiner has failed to establish a *prima facie* case of obviousness. A failure to meet any one leg of a *prima facie* case of obviousness invalidates the Examiner's proposed combination of Gandy and Meyers. In the present case, the Examiner's proposed combination cannot support any one of the three legs of a *prima facie* case of obviousness. Thus, the Examiner's proposed combination falls well short of a *prima facie* case of obviousness.

All rejections relying on a combination of Gandy and Meyers as proposed by the Examiner must be withdrawn.

A reference cited under 35 USC Section 103 must be taken for what the reference teaches as a whole to one of ordinary skill in the art. As found in the MPEP at Section 2143 BASIC CONSIDERATIONS WHICH APPLY TO OBVIOUSNESS REJECTIONS:

When applying 35 U.S.C. 103 the following tenets of patent law must be adhered to:

(A) The claimed invention must be considered as a whole;

(B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;

(C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and

(D) Reasonable expectation of success is the standard with which obviousness is determined.

Hodosh v. Block Drug Co., Inc., 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986).

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (as taken from MPEP Section 2143)

5 Applicants note that both Gandy and Meyers in fact teach away from carriage-mounted drying apparatus. Both documents taken as a whole teach that drying apparatus be separate from the print carriage. Only impermissible hindsight brings the Examiner's proposed combination into consideration. For this separate reason, the Examiner's proposed combination of Gandy and Meyers as standing for the obviousness of a carriage-mounted bifurcated heating device drying on
10 both sides of a sheet must fail as a proper 35 USC Section 103 rejection.

The remaining rejection, proposing a combination of Gandy and Ort and alleging obviousness of all independent claims, cannot be supported by 35 USC Section 103.

15 The Examiner proposes as obvious to incorporate the teachings of Ort into the invention of Gandy so that each carriage contains a heater.

Again, the Examiner has failed to establish a *prima facie* case of obviousness. The specific purpose of the Ort carriage-mounted single-sided heater is to provide pinpoint heating and
20 consequent ink drying in the vicinity of printing operations and thereby allow use of media-contacting rollers or bails to hold the media against a roller or platen without smudging the ink.

No suggestion or motivation exist, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the Gandy reference or to combine
25 the Gandy reference with the teachings of Ort. Only with the benefit of hindsight and applicants own teachings can one perceive such potential in combining Gandy and Ort. Gandy has no need for pinpoint drying in the vicinity of printing operations and lacks motivation to replace the heating and drying apparatus well suited for use in the architecture of the Gandy printing device. In other

words, the Ort carriage-mounted drying device provides no advantage relative to that already proposed by Gandy.

Applicants respectfully submit that no reasonable expectation of improved success exist for the placement of an Ort carriage-mounted dryer in the printing device of Gandy. The drying devices taught by Gandy apply heat energy upstream and downstream relative to printing operations and, further, across the entire width of the media. Ort only applies heat energy in pinpoint fashion very near the printing operation. In short, the Ort drying method and device is inferior to that taught by Gandy and, therefore, offers little expectation of improved success.

Finally, the Gandy and Ort references do not teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. Here the Examiner clearly relies on applicant's own disclosure to find the proposed combination. The Ort device operates to dry only one side of a sheet. Placing such a single-sided ink-drying device in the Gandy printer does not establish drying on both sides of a sheet.

In light of the above, reconsideration and withdrawal of the outstanding rejections is respectfully requested.

Respectfully submitted,

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8/18/04

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